

MAREK, KAREL

"Manual of exercises in biochemistry; a university textbook."

Praha, Czechoslovakia, Statni pedagogicke nakl., 1958, 80 p.

Monthly list of East Europe Accessions (EEAI), LC, Vol. 8, No. 6, Sept 59
Unclas

MAREK, J.

Observation of light diffraction through a lattice in the year 1648.
Cs cas fys 12 no. 2:188-189 '62.

1. Vyzkumny ustav hutnictvi zeleza, Praha.

BAUER, Frantishek [Bauer, Frantisek], dots., inzh.doktor; ~~MAPEK~~,
Yindrich [Marek, Jindrich], doktor yestestv. nauk;
~~KNIKHAL~~, Vladimir [Knichal, Vladimir], prof., doktor, retsenzent;
LEEDUSHKA, Yaroslav [Lebduska, Jaroslav], inzh., retsenzent;
PESHEK, Rudolf [Pesek, Rudolf], prof., inzh.doktor, nauchnyy
red.

[Isentropic gas-flow; tables and Correction Nomograms] Izen-
tropicheskoe techenie gazov; tablitsy i popravochnye nomo-
grammy. Izd-vo Chekhoslovatskoi Akad. nauk, 1961. 643 p.
(MIRA 15:2)

1. Issledovatel'skiy institut matematicheskikh mashin, Prague
(for Marek). 2. Chlen-korrespondent Chekhoslovatskoy akademii
nauk (for Peshek).

(Gas dynamics)

MAREK, J.

Analogue resistance network for the solution of difference: ~~8-9~~ 4 ~~10~~ p. 199.
(STROJE NA ZPRACOVANI INFORMACI, Vol. 4, 1956, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

MAREK, J. M.

Marek, Jindřich M. Interpolation of $\cot \alpha$ in the neighborhood of $\alpha=0$. Stroje na Zpracování Informací 3 (1955), 197-210 (1956). (Czech. Russian and English summaries)

A method is given for the determination of the value of $\cot \alpha$ for small angles of α which is suitable for punched-card computations, since it obviates division. It consists of the introduction of a correction function k_n so that

$$\cot \alpha = n \cot n\alpha + k_n.$$

The function k_n is tabulated for $n=10$ and 100 , to be used in conjunction with six-place tables with argument intervals $h=\pi/20000$. Linear interpolation is then used.

V. Vand (University Park, Pa.).

MAREK, JINDRICH M.

/ Marek, Jindřich M. Interpolation based on information
~~inside the interpolation interval.~~ Stroje na Zpracování
Informací 2, 117-145 (1954). (Czech. Russian and
English summaries)

1 - F/W

RAW

S/271/63/000/001/033/047
D413/D308

AUTHORS: Černý, Václav, Marek, Jindřich, M. and Oblonský, Jan

TITLE: A Czech-produced automatic computer

PERIODICAL: Referativnyy zhurnal, Avtomatika, telemekhanika i vychislitel'naya tekhnika, no. 1, 1963, 30, abstract IB167 (Stroje na zpracov. inform., v. 2, 1954, 11-92 (Czech: summaries in Rus. and Eng.))

TEXT: The authors describe the SAPO relay-type automatic computer with a 5-address command system and magnetic drum memory (1024 32-digit words). The computer contains 7000 relays and 400 electron tubes, has 3 arithmetic units, and works on a binary system with floating binary and decimal points. The structure of the computer excludes the effect of random errors on the correctness of the result of computation. Descriptions are given of the command system, the memory, the control equipment, the input and output equipment and the arithmetic unit, with a survey of the basic operations. 4 references.

[Abstracter's note: Complete translation]

Card 1/1

CZECHOSLOVAKIA

MARECEK, J.

VORECKY, B; MARFALEK, A; MARECEK, J

1. Institute of Nuclear Research, Czechoslovak Academy of Sciences, Rez near Prague - (for 1); 2. Research Institute of Inorganic Chemistry, Veti nad Labem - (for 1)

Prague, Collection of Czechoslovak Chemical Communications, No 8, August 1966, pp 3309-3314

"Determination of lanthanides in uranium by activation analysis."

L 31476-66 EWP(t)/ETI IJP(c) JD/JH

ACC NR: AP6023168

SOURCE CODE: CZ/0008/65/000/011/1357/1361

AUTHOR: Ditz, Jiri; Marecek, Josef; Dvorak, Josef; Rezac, Zdenek

ORG: Research Institute for Organic Chemistry, Usti (Vyzkumny ustav anorganicke chemie)

TITLE: Determination of calcium and magnesium in high purity acids

SOURCE: Chemicke listy, no. 11, 1965, 1357-1361

TOPIC TAGS: chelate compound, quantitative analysis, calcium compound, magnesium compound

ABSTRACT: The method proposed by the authors is based on a chelatometric microdetermination of Ca in hydrochloric and nitric acids and on a semimicro-determination of Ca and Mg in hydrofluoric acid. Ca in HCl and in HNO₃ may be determined in concentration on the order of 10⁻⁵ with a relative inaccuracy of 4.25%; Ca and Mg in HF in concentrations of 10⁻³ and with an inaccuracy of 3.65% for Ca, and 2.26% for Mg. The described methods are more accurate and reliable than those used up to now. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 27Oct64 / ORIG REF: 003 / SOV REF: 001
OTH REF: 003

Card 1/1 mc

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1379

L 31757-66 EWP(t)/ETI LJP(c) WH/JW/JD SOURCE CODE: CZ/0008/65/000/008/0972/0978
 ACC NR: AP6021638 27
 AUTHOR: Marecek, Josef; Ditz, Jiri 0
 ORG: Research Institute for Inorganic Chemistry, Usti n. L. (Vyzkumny ustav anorga-
 nicke chemie) 17
 TITLE: Preparation of high purity hydrochloric, hydrofluoric, and nitric acids 11
 SOURCE: Chemicke listy, no. 8, 1965, 972-978
 TOPIC TAGS: distillation, chemical purity, hydrochloric acid, hydrofluoric acid,
 nitric acid
 ABSTRACT: Methods proposed by the authors are described, and the
 analytical control of the product acids is discussed. For HCl
 the authors propose three methods: azeotropic distillation, giving
 concentrations of the product up to 7N; isothermal distillation;
 and the preparation of the acid by absorbing anhydrous HCl in pure
 water. For HF a method of isothermal distillation using poly-
 ethylene equipment is suggested. For nitric acid, redistilla-
 tion from pure quartz equipment is proposed; concentrations up to
 14 N may be obtained. The amount of impurities was lowered by
 1 to 2 magnitude orders. The authors thank Z. Rezac and Dr. J. Dvorak for valua-
 ble advice and comments. Orig. art. has: 7 figures and 1 table. [JPRS]
 SUB CODE: 07 / SUBM DATE: 18Jul64 / ORIG REF: 003 / SOV REF: 008
 OTH REF: 014
 Card 1/1 PB

MAREK, JOZEF

Economical pickling solution. Józef Marek. *Przemysł Chemic. 6*, 532(1952).--The pickling soln. is prepd. according to the formulation: neutral sulfite, 38° Bé., 72, potato glue LCT 6, naphthalene 6, thiourea 6, and tap water 10%. This dissolved in hot H₂O and added to 15% H₂SO₄ or HCl forms good pickling soln. which prevents corrosion of metallic Fe, lowers the acidity of the soln., stabilizes the metal, and decreases the amt. of vapors. G. A. W.

11E

C.A.

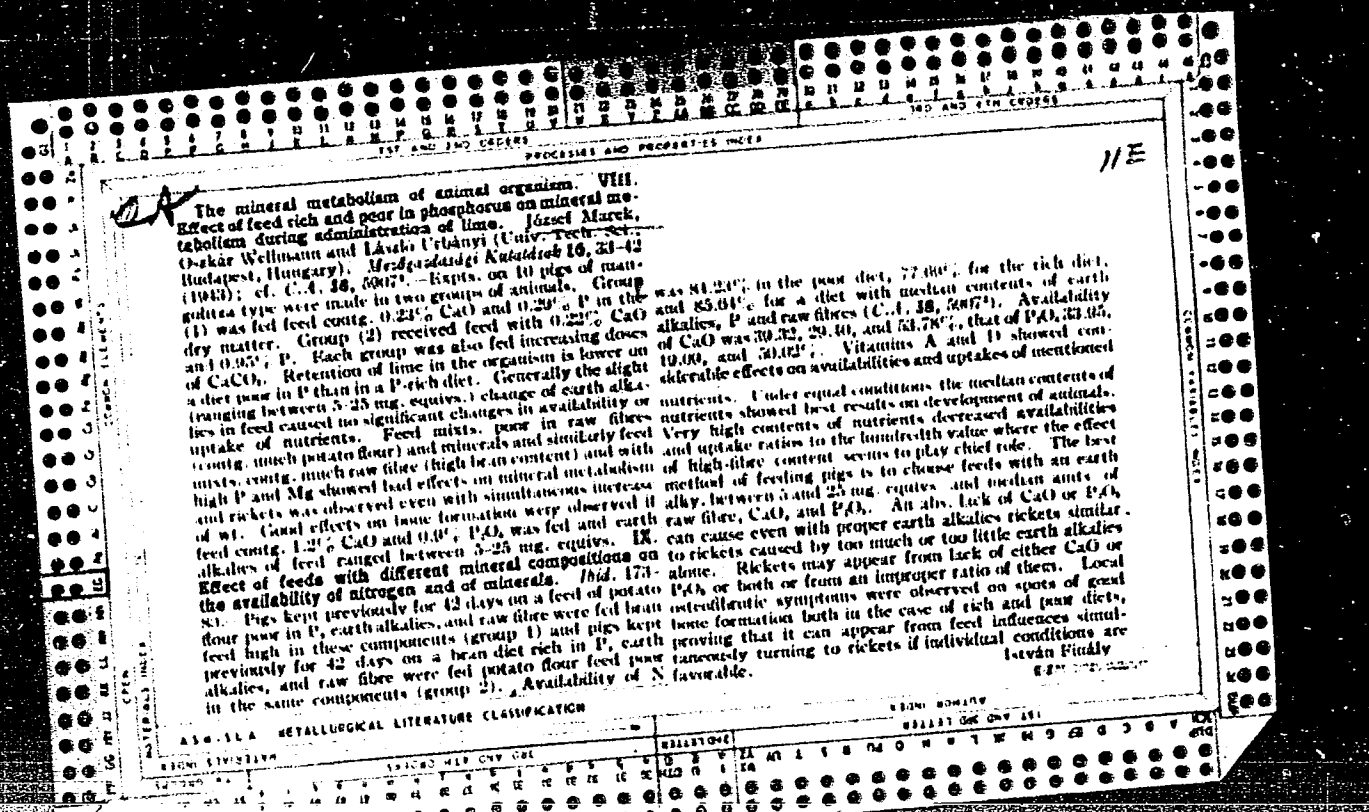
Summary of the nature of rachitis and similar bone diseases, with respect to recent investigations. J. Marek, O. Wellmann, and László Vrhányi (Univ. Agr. Sci., Budapest, Hung.). *Acta Vet. Hung.* 1, 47-61 (1949). Mineral salt requirement is influenced by age, type, work, feed, and by the ratio of mineral constituents. Earth alkali-alky. relation furnishes reliable information on feed evaluation. Vitamin D controls the Ca and P metabolism and appears to encourage metabolism in general as well as cell metabolism. When optimal amts. of Ca and P are in the feed, vitamin D is dispensable. Biochem. and pathol. data are published. 49 references. István Finkly

12A

11E

Effect of calcium and phosphorus rich diets on the metabolism of rabbits. József Károk, Oszkár Wellmann, and László Gáspár (Univ. Tech., Budapest, Hungary). *Mezőgazdasági Kutatók* 17, 137-41 (1944); cf. Gary). Meszöszárdi Katalin 17, 137-41 (1944); cf. Gary). 18, 1225. -- Expts. on 4 adult rabbits proved that excess P in the feed is deposited in the soft parts and in bones of the body in the form of a Ca compd. Thus, the toxic effects of excess P depend mostly on the Ca content of feed and a simultaneous Ca-poor diet is dangerous for the body. A lime-rich diet causes a considerable increase of Ca, Mg, and P in the entire organism and has more severe effects than a P-rich diet since at the same time the Ca/P ratio also increases. The results of expts. explain why rabbits on a vegetarian diet appear to get sick and undergo disturbances of metabolism with even a slight excess of P but excess lime seems to have toxic effects only in extraordinary doses and in the presence of individual sensibility. István Fényi

ABR-514 METALLURGICAL LITERATURE CLASSIFICATION



CT

11 E

PROCESSING AND REQUESTER INDEX

The mineral metabolism of animal organisms. II.
Effect of food too rich in lime or phosphorus on the metabo-
lism of swine. Josef Marx, (Archiv Wellmann und
Lasko Urbanyi. Monatshefte Naturforsch 14, 197-202
(1941); cf. C. A. 35, 803P.—Feeding expts. on four 8-week
old pigs proved that feed exceedingly rich in P generally
increased the wt. increase of pigs, the amount of excreted
feces and urine, the amount of water, dry matter, N and
P excreted in form of feces and the amount of P excreted
in urine. This effect of P-rich feed increased the utiliza-
tion of Mg and P in the organism, helped to accumulate N,
Mg and P. Feeding with substances exceedingly rich in
Ca showed quite opposite effects. One-sided feeding led
to severe rachitic symptoms. Also the acid-base balance
of the organism was effected strongly by one-sided feed.
S. S. de Fındly

ASB-11A METALLURGICAL LITERATURE CLASSIFICATION

PERSON DIVISION

SUBJECT MATTER ONE

RELATIONS

EXTRACT ONE ONLY

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
INVESTIGATIONS ON THE MINERAL METABOLISM OF THE ANIMAL ORGANISM. I. Effect of mineral salt content and lime additions to feed on the metabolism of swine. József Marck-Oskár Wellmann and László Urbányi. <i>Mezőgazdasági Kutatók</i> 16, 167-78(1911).—Expts. on 6 swine 0-3 weeks old showed that feed low in P and crude fiber gives greater wt. increases and better utilization of nutrients. The wt. increase and the utilization of nutrients is somewhat increased for feeds medium or low in P by increase of lime. Added lime decreased the utilization of nutrients and diminished the rate of wt. increase with feed high in P. Addn. of lime to the feed with const. P content increases the secretion of water and P in feces and diminishes that of other constituents in favor of urine. Feed rich in P increases the mineral matter of feces and diminishes that of urine. For making lime addns. the age of pork and the dry matter and P contents of feed must be considered. S. S. de Finály										11E									
ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION																			
STANDARD NO.										STANDARD NO.									

11 E

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Processes and Properties Index

Rickets and similar bone diseases. IV. Comparative experiments with swine on various feeds. József Marck, (Székár Weismann and László Urbányi. *Állatorvosi Lapok* 63, 1-3, 8-10 (1940); cf. C. A. 34, 10339. —Rickets can occur in swine as a result of (1) insufficient Ca or P salts or (2) a one-sided lime-rich or phosphorus-rich diet. The lowest normal values for each 10 kg. live wt. of swine are 5.7354 g. Ca and 4.2310 g. P_2O_5 with an excess of alk. earth of 25 mg. Various types of pigs showed different susceptibilities to rickets. Feeds low in Ca and P decreased the P_2O_5 content of the ash of bones significantly; feeds high in Ca and P increased the P_2O_5 of the bone ash.

Excess of Mg caused an increase in the content of Mg and P_2O_5 only in simultaneous Ca deficiency and with a proper dosage of P. Ca deficiency caused an increase of inorg. P in the blood serum; excess Ca diminished the inorg. P content of the serum. Excess Mg seemed to increase slightly the Mg content of the serum. VI. Effect of the mineral salt ratio and of the vitamin D content of the feed on the utilization of mineral substances in the organism. *Mezőgazdasági Kutatók* 12, 251-62 (1939). —Feeding experiments were made on 27 swine for 6 days. Various Ca and P salts and vitamin D were added to the feed; in some expts. vitamin D was injected. The Ca/P quotient of the feces was the reverse of that of the feed. Most suitable are feed mixts. that have an excess of alk. earth of 5-25 mg. An unfavorable ratio of Ca/P in the feed is only slightly affected by vitamin D. The antirachitic effect of vitamin D is attributed to the control of metabolism and the acceleration of the resorption of nutritive salts. S. S. de P.

ASTM 31A METALLURGICAL LITERATURE

Effect of lime-rich or phosphorus-rich feed on the alkali reserves and neutralizing capacity of the blood of pigs. J. Marek, Oskar Wellmann and László Urbanyi. *Arch. Nutrit. Hungar. Akad. Wiss.* 59, 170-8 (1940).

Pigs 6-8 weeks old were fed various ratios of Ca and P. Group 1 received 15.74 g. CaHPO_4 and 2.85 g. NaH_2PO_4 or only 7.23 g. NaH_2PO_4 for each 10 kg. live wt.; group 2 received 6.29, 7.11, 7.63 and 9.57 g. CaCO_3 or 8.29 g. MgCO_3 and group 3 received 18.93 g. CaCO_3 . Thus group 2 served as an example of normal feed, group 1 represented animals receiving acid feed and group 3 received alk. feed. P-rich feed increased the absorption of phosphate ions; lime-rich feed increased the absorption of Ca ions. The pH value of the blood plasma was almost the same in all groups, ranging from 7.46 to 7.49. The alkali reserve of the plasma was 58.17 vol. % CO_2 in group 1, 61.23% in group 2 and 63.92% in group 3. The acid and base capacities were diminished by P-rich and increased by lime-rich feeds. The decrease on P-rich feed was almost the same; the increase caused by lime-rich feed was insignificant for the base capacity and high for acid capacity. Rickets caused by lime-rich feed seems to increase the resistance of blood and cell liquids to the toxic effects of acid character. This is a new argument in favor of the point that rickets can occur on alkalotic base also and the acidotic and alkalotic forms of rickets can be differentiated.

S. S. de Finily

11 E

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND CATEGORIES																				PROCESSES AND PROPERTIES INDEX																				3RD AND 4TH CATEGORIES																			
Ca																																								11 f																			
The effect of fodder differing in mineral composition on the blood of the young pig. J. Marek, O. Weilmann and L. Urbanyi. <i>Allatoron Lapok</i> 61, 837-8(1938); Z. <i>physiol. Chem.</i> 257, 240-54(1939).—The Ca, Mg and P contents of blood of young pigs vary in the same direction as the amt. of each element in the diet. When blood Ca or P rises the other element falls. Milton Levy																																																											
ASM-A1A METALLURGICAL LITERATURE CLASSIFICATION																																																											

119

Rickets and osteomalacia. János Marek, Oszkár Wellmann and László Urbányi. *Állatorvosi Lapok* 61, 1-4(1938).—Disturbances of metabolism causing rickets or osteomalacia in the cow do not affect the unborn calf. The femurs of a healthy cow and of one suffering from osteomalacia, resp., contained fat-free dry matter 50.26, 39.24; fat-free org. matter 17.29, 16.13; ash 33.07, 23.15; CaO 17.32, 12.43; MgO 0.42, 0.24; and P₂O₅ 13.10, 9.50%. Calcd. on fat-free dry matter the Ca:P ratios were 2.16 and 2.4; CaO:MgO 41.43 and 51.03. The bone contained CaO 62.37, 53.68; MgO 1.26, 1.05; P₂O₅ 39.63, 41.02%. S. S. de Finckly

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BC

PROCESSING AND RECOVERY NOTES

Bone analysis in diagnosis of bone diseases of animals. J. MARKE, O. WELLMANN, and L. URRÁNTI (Mesög. Kintat., 1937, 10, 145-158).— Although a mere determination of ash content is of no diagnostic val., the Ca : P and CaO : MgO ratios give immediate information not only of the presence of rickets but also of its cause, whether alkalotic or acidotic. E. C. S.

ASB-11A METALLURGICAL LITERATURE CLASSIFICATION

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

MAREK, J. and HUTYRA,

"Special Pathology and Therapeutics of Domestic Animals". T. I., "Infectious",
Sel'khozgiz, 1957.

11/

Further examinations on the chemical structure of the salts of the bones. József Marek, Oszkár Wellmann and László Urbányi. *Math. u. Naturw. Anz. ungar. Akad. Wiss.* 52, 734-6 (1935).—See C. A. 29, 8082a. S. S. de F.

ASAC-51A METALLURGICAL LITERATURE CLASSIFICATION

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Further investigations on the chemical structure of the salts of bones. Josef March, Oskar Wellmann and László Urbánek. *Mednarodni Kataloški* 8, 217-24 (1935); cf. C. A. 29, 200, 5857. The Ca and P compounds of bones of calves and cows hydrolyze on boiling with glycerol, glycerol + KOH, water or aq. KOH or K_2CO_3 solution. The hydrolysis is similar to that of $Ca_3(PO_4)_2$. The P content of bones decreases and basic Ca phosphates are formed. The same changes take place in bones treated according to Gabriel (*Z. physiol. Chem.* 18, 257 (1893)) and the presence of hydroxylapatite is due to this change. In their original state bones do not seem to contain other Ca phosphates than triphosphate. The carbonate radical of bones is bound only to metals the phosphates of which are practically insol. in water, especially to Ca. Results of former (*Mednarodni Kataloški* 7, 189 (1934); cf. C. A. 28, 6177) and present investigations indicate that the mineral matter of bones is mostly a mixt. of $Ca_3(PO_4)_2$ and $CaCO_3$ with some $Mg_3(PO_4)_2$ and calcium alkali phosphates. Both the chem. compn. and the biol. role of bones in the organism contradict the apatite theory and the supposition of Klement (C. A. 29, 200). S. S. de Finilly

ASM-A METALLURGICAL LITERATURE CLASSIFICATION

9.7
 10
 Degradation products of 4',4'',5',5'-tetraphenyldifurano-
 (2',3',1,2:3'',2'',3,4)naphthalene. O. Dischenhofer and
 J. Marek (Tech. Hochschule, Graz, Austria). *Monatsh.*
 80, 100-5 (1949); *Österr. Akad. Wiss., Math.-naturw.*
 • *Klasse, Sitzber.*, 11B, 158, 401-5; cf. preceding abstr.—
 Degradation studies on 4',4'',5',5'-tetraphenyldifurano-
 (2',3',1,2:3'',2'',3,4)naphthalene (I) were continued. Oxi-
 dation of I with CrO_3 in $\text{C}_6\text{H}_5\text{-AcOH}$ yielded 5-benzyloxy-4-
 benzyloxy-2,3-diphenyl-6,7-benzosoumarone (II), m. 238°,
 hydrolyzed with KOH in pyridine to the 5-110 compd. (III),
 m. 192.5°; oxime, m. 210-18°. Refluxing III with Ac_2O
 yielded the 5-AcO compd. (IV), m. 174°, while heating at
 220-30° in a sealed tube gave 4,4',5'-triphenyl-7,8-benzo-
 furano(3',2',5,6)comarin, m. 250° (analysis, C 85.90,
 H 4.95%, not satisfactory). Oxidation of IV with CrO_3
 gave 1-acetoxy-4-benzyloxy-2,3-dibenzoylnaphthalene, m.
 178°, which with Ac_2O in a closed tube at 220° gave the
 dilactone of 1,4-dihydroxynaphthalene-2,3-dicinnamic acid
 (cf. preceding abstr.). III with Me_2SO_4 in boiling AmOH
 gave the 5-MeO compd., m. 180.5°, which upon oxidation
 with CrO_3 gave 1-methoxy-4-benzyloxy-2,3-dibenzoyl-
 naphthalene (V), m. 180°. Hydrolysis of V with KOH
 in pyridine gave 1-methoxy-4-hydroxy-2,3-dibenzoylnaph-
 thalene (VI), m. 133°. VI in Ac_2O yielded the 4-AcO
 compd., m. 146-7°, which when heated with Ac_2O at 220°
 in a closed tube was converted to 6-methoxy-5-benzoyl-4-
 phenyl-7,8-benzosoumarin, m. 207°. Color reactions of
 most of the above derivs. with FeCl_3 and H_2SO_4 are given as
 well as distn. temps. Walton J. Smith

CA 11E

Investigations on rickets and similar bone diseases. V. Prophylaxis and therapeutic experiments on pigs with massive doses of vitamin D. József Marek, Oszkár Wellmann and László Urbányi. *Magyar Orvosi Lapok* 63, 10-21(1940); cf. C. A. 34, 2889. In a breed of pigs susceptible to rickets, on a rachitogenic diet, a single subcutaneous injection of 50,000 I. U. vitamin D and 1000 I. U. vitamin A prevented appearance of rickets or cured acute rachitic symptoms. The admin. of 150 I. U. vitamin D in form of an oil per each 10 kg. of live wt. to the feed had the same protective effect. Massive dosage of vitamin D is effective only if the disease is not too severe. VII. The effect of calcium-rich or phosphorus-rich feeds on the alkali reserve and buffer content of the blood of pigs. Medgyesszgyi Katalinok 13, 1-7(1940). With insufficient vitamin D, one-sided P-rich or Ca-rich feeds did not change the H-ion concn. of blood plasma. Compared with feeds contg. the optimum content of alk. earths, P-rich feeds diminished the alk. reserve. Calcium-rich feeds increased the alk. reserve. P-rich feeds diminished the neutralizing capacity of blood plasma; Ca-rich feeds increased it. The investigations confirmed the differentiation between acidotic and alkalotic rickets. S. S. de Finkly

ABR 51A METALLURGICAL LITERATURE CLASSIFICATION

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525

VASKOVA,M.; MAREK,J.; PIVONKOVA,L.

Occupations for myopic adolescents. Cesk. oftal. 20 no.2:92-94
Mr.'64.

1. Oční klinika lékařské fakulty PU v Olomouci (prednosta:prof.
dr. V.Vejdovsky) a Zakladni devítiletá škola pro slabozraké v
Litovli (reditel: J.Marek).

*

MAREK, Josef, inz., Dr.Sc.

"Improvement of railroad beds" by [inz., C.Sc.] Josef Kraus and
[inz., C.Sc.] Petr Tyc. Reviewed by Josef Marek. Zvl dop tech
10 no.10:311 '62.

MAREK, Josef, inz.

Passage to the industrial production of railway track
equipment. Zel dop tech 10 no.4:106-109 '62.

^V
MAHEK, ^{Jiri} Irzhi [Marek, Jiri]; GRAKOVA, Il. [translator]; KASYUGA, L. [translator];
~~MALININA, G., red.; LYANGUZOVA, tekhn. red.~~

[Equatorial land, or a full and detailed description of a trip
through Java and Bali undertaken in 1955] Strana pod ekvatorom,
ili polnoe i podrobnoe opisanie puteshestviia na Iavu i Bali,
predpriniatogo v 1955 godu.... [Moskva] Izd-vo TsK VIKSM "Molodaia
gvardiia," 1958. 175 p. (MIRA 11:7)

(Java--Description and travel)
(Bali (Island)--Description and travel)

MAREK, JIRI.

GEOGRAPHY & GEOLOGY

MAREK, JIRI. Zeme pod rovníkem; aneb upine a podrobne vypsani cesty na Javu a Bali, leta Pane 1955 podniknute, spolu s vylicenim vseh prihod, jakoz i s popsanim zivota, zvyku, kroju a mravu obyvatel tech zemi, jejich viry, pover, tancu, hudby, divadla, malirstvi, tez pak s popisem stravy, rostlin, zvirumy i pocasi, spolu s ruznym pozorovanim na more, zemi, i ve vzduchu. Kresby perem i mapy podle vypraveni autorova vyvedl Eduard Hofman. Svetlotisky za vselikeho nebezpeci a s neutuchajici pili na miste zhotovil Jaroslav Novotny. V Praze, Mlada fronta, 1956. 155 p. (Edice Globus, sv.23)

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 2,
February 1959, Unclass.

3.2
MAREK, Irzhi (Chekhoslovakiya)

Observation of the diffraction of light in 1648. Vop.ist.est.i
tekh. no.10:67-73 '60. (MIRA 14:3)
(Diffraction)

CZECH/37-59-6-2/25

Calculation of the Parameter σ of the Lennard-Jones Potential

from the equation of state for A, Ne and N₂. Table II compares some values of σ calculated by two methods for more complicated molecules. From a known value of σ , on the other hand, the surface tension can be determined. This is shown in Eq (4) for mercury and in Eq (5) for water. Results from Eq (4) are tabulated in Table III and results from Eq (5) in Table IV. The agreement with experiment is very good, in spite of the fact that H₂O is a polar molecule. The parameter σ can also be calculated from the density of the liquid (Eq (6), Table V). For complicated molecules, the values of σ obtained from Eqs (3) or (6) are lower than those obtained by other methods.

Card
2/2

There are 5 tables and 24 references, of which 11 are English, 11 German and 2 Czech.

ASSOCIATION: Katedra matematiky a fyziky VPŠ, Plzeň
(Chair of Mathematics and Physics, VPS, Pilsen) ✓

SUBMITTED: May 16, 1959

AUTHOR: Jiří Marek

CZECH/37-59-6-2/25

TITLE: Calculation of the Parameter σ of the Lennard-Jones Potential

PERIODICAL: Československý Časopis Pro Fysiku, 1959, Nr 6,
pp 562-566

ABSTRACT: The force acting between spherical non-polar molecules can be calculated from the Lennard-Jones potential, Eq (1) (Refs 6-12):

$$\varphi(r) = 4\epsilon \left[\left(\frac{\sigma}{r} \right)^{12} - \left(\frac{\sigma}{r} \right)^6 \right]. \quad (1)$$

σ is usually determined either from the viscosity or from the equation of state. It can, however, be calculated from the surface tension γ . The surface tension of a liquid as a function of temperature is given by Eq (2), where T_k is the critical temperature, μ the molecular weight and N Avogadro's number. If γ is known for two temperatures T and T' , where the densities are ρ and ρ' , σ can be calculated from Eq (3). Table 1 compares some values of σ calculated from Eq (3) with those calculated from the viscosity and

Card
1/2

67015

CZECH/37-59-4-2/16

Cohesive Pressure in Liquids, Surface Tension and Parachor

also as calculated from the Van der Waals and Stefan's Equations. The agreement is good.

There are 3 figures, 4 tables and 6 English references.

ASSOCIATION: Katedra fysiky VPŠ v Plzni
(Chair of Physics, VPS Plzen)

SUBMITTED: November 4, 1958, and after correction, February 20, 1959.

Card 4/4

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CZECH/37-59-4-2/16

Cohesive Pressure in Liquids, Surface Tension and Parachor

obtain the relation between cohesive pressure and surface tension (Eq (9)). The parameter γ' is given by Eq (8). In real liquids, the density is not constant (Refs 2, 3, 4 and 5). A real liquid also has no sharp boundary with the surrounding gas. A transition layer exists which is a function of temperature. We therefore introduce correction factors ϕ_1 and ϕ_2 for the magnitudes K' and γ' . $\phi_2 < 1$; some values of ϕ_2 are tabulated in Table 1 and shown in Fig 3 as a function of temperature. It is often of advantage to replace γ by the parachor:

$P = \gamma'^4 \cdot \frac{P}{p - p_v}$, because this is independent of temperature. We then obtain Eq (12). Finally, we apply the equation for the cohesive pressure (Eq (12)) to polar molecules. We neglect the fraction multiplying P^4 and also neglect p_v . From Stefan's Equation, we obtain for chloroform at 18°C, $K = 2040$ atm. Comparison with Eq (12) shows that $\phi = 1.66$. Using this value, we calculate the cohesive pressure in benzene at 18°C and obtain $K = 2035$ atm. For CS_2 $K = 2600$ atm. Table 4 shows some values of K as calculated from Eq (12) and ✓

Card 3/4

67015

CZECH/37.59.4.2/16

Cohesive Pressure in Liquids, Surface Tension and Parachor

between the liquid and the surrounding saturated vapour is perfectly sharp. The density of the liquid is ρ , the density of the vapour is ρ_p . We choose a system of co-ordinate with its origin in the centre of a given molecule, the "x" axis horizontal and the "y" axis perpendicular to the surface of the liquid. The resultant force of an element of volume $2\pi x \cdot dx \cdot dy$ is given by Eq (1), where $F(r)$ is the force between two molecules, N is Avogadro's number and μ is the mass of the molecule. $F(r)$ is calculated from the Lennard-Jones potential (Refs 6-12). Integrating Eq (1) we obtain Eq (3). We further calculate the work done by the transfer of one molecule from the interior of the liquid to the depth "y". This is Eq (4). The total work needed to transfer a molecule from the interior of the liquid to its surface is the sum of the equations (4'), (5') and (6'). Because the pressure in the liquid equals the work needed for the transfer of a unit of volume from a given point to the surface, the cohesive pressure will be Eq (7). The mean value of the potential energy of a molecule of a surface layer will be called "Ws". Using Eqs (4), (5) and (6) we obtain "Ws" and, by combining it with Eqs (7) and (8), we

Card 2/4

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24.5300

AUTHOR: Jiří Marek

67015
CZECH/37-59-4-2/16

TITLE: Cohesive Pressure in Liquids, Surface Tension and Parachor

PERIODICAL: Československý Časopis Pro Fysiku, 1959, Nr 4,
pp 347-354

ABSTRACT: The cohesive pressure in liquids has a profound influence on the compressibility, on the heat of evaporation and on other properties characteristic of the liquid. Because the cohesive pressure cannot be directly measured, we can only establish it from theoretical considerations. The Van der Waals equation and the calculation of the heat of evaporation by Stefan's equation, show that this pressure is of the order of magnitude of thousands of atmospheres. The dependence of the cohesive pressure on the characteristic properties of the liquid will be discussed for a simplified model of a liquid. The dependence of the surface tension will also be discussed and the relation between cohesive pressure, surface tension and parachor will be considered. The model consists of a liquid of non-polar molecules, perfectly evenly distributed in space, i.e. without fluctuations in density. The nearest distance between two molecules is Δ . The boundary

Card 1/4

Transformation of the Lebesgue-Stieltjesschen Integrals¹⁶
 Král, Josef; und Marek, Jiří. Transformation des
 Lebesgue-Stieltjesschen Integrals. Czechoslovak Math.
 J. 8(83) (1958), 86-93. (Russian. German summary)
 Suppose that f is continuous and real on the closed
 interval $[a, b]$, $f(a) \leq f(b)$, that g is continuous and real
 on $[f(a), f(b)]$, and that $g \circ f$ has finite variation on $[a, b]$.
 Let Φ be an extended-real valued function on $[a, b]$.
 Suppose the Lebesgue-Stieltjes integral $\int_a^b \Phi(f(x)) dg \circ f(x)$
 exists. Then the integral $\int_{f(a)}^{f(b)} \Phi(y) dg(y)$ exists and is
 equal to the first integral. E. Hewitt (Seattle, Wash.)

3
 1-FW

MAREK, Jiri

Importance of the dispersion of crystal orientation in the transformer steel strips with Goss texture. Hut listy 16 no.6:413-417 Je '61.

1. Vyzkumny ustav hutnictvi zeleza, Praha.

MAREK, Jaroslav; SPITZER, Karel; STARY, Jaroslav

Noctua interposita Hubner, 1789 (Lep., Noctuidae) in Czechoslovakia.
Cas entom 61 no.2:190-193 '64

1. Czechoslovak Entomological Society affiliated with the Czechoslovak Academy of Sciences, Prague.

MAREK, Jaroslav

Calculation of the medium grain size in foundry sands.
Slevarenství 12 no.4:154-155 Ap '64.

1. Zavody V.I. Lenina, Plzen.

MAREK, Jaroslav

Occurence of some clearwings in Moravia and Slovakia (Lep.,
Sesiidae). Cas entom 59 no.3:281-284 '62.

1. Ceskoslovenska spolecnost entomologicka.

MAREK, Jaroslav, PhMr.

Handling of films. Cesk. zdravot. 4 no.10:626-627 Oct 56.

1. Vyskumny ustav zdravotnicke osvety v Praze.
(MOTION PICTURES,
handling of films (Cz))

MAREK, Jaroslav, PhMR.

Production and use of films in health education. Cesk. zdravot.
4 no.9:528-535 Sept 56.

1. Vyzkumny ustav zdravotnicke osvety v Praze.
(HEALTH EDUCATION,
motion picture in (Cz))
(MOTION PICTURES,
in health educ. (Cz))

MAREK, Jarosz

Behavior of blood glucose following glucose, insulin and adrenalin load in schizophrenic patients. Preliminary communication. Neurologia etc., polska 12 no.3:379-388 '62.

1. Z Kliniki Psychiatrycznej AM w Lodzi Kierownik: prof. dr med.
S. Cwynar.

(GLUCOSE TOLERANCE TEST)	(SCHIZOPHRENIA)
(EPINEPHRINE)	(INSULIN)

MAREK, Janos

Automation of the pump station of the international
pipelines. Bany lap 93 no. 11:765 N '60.

L 16821-65

ACCESSION NR: AP5000100

ity of the alloys after long-time annealing at 350C was verified.
Orig. art. has: 2 figures and 8 tables.

ASSOCIATION: Vyzkumny ustav kovu, Panenske Brezany (Research
Institute of Metals)

SUBMITTED: 01Jun64

ENCL: 00

SUB CODE: MM

NO REF SOV: 004

OTHER: 011

Card 2/2

L 16821-65 EWT(m)/EWA(d)/T/EWP(t)/EWP(b) ASD(m)-3/ASD(f)-2/IJF(o) MJW/jd

ACCESSION NR: AP5000100

Z/0065/64/000/006/0537/0548

AUTHOR: Sedlacek, V. (Sedlachek, V.); Marek, J. (Marek, Y.) 13

TITLE: Heat treatment of selected alloys of the Ti-Al-Cr-Fe system 27

SOURCE: Kovova materialy, no. 6, 1964, 537-548 18

TOPIC TAGS: Ti Al Cr Fe system, TiAl6Cr4Fe1 alloy, TiAl4Cr2Fe1 alloy, heat treatment 18 18

ABSTRACT: Phase analysis and x-ray microanalysis of TiAl6Cr4Fe1 and TiAl4Cr2Fe1 alloys were conducted to determine the chromium and iron content in individual phases after quenching at various temperatures. The major portion of the chromium was found to be concentrated in the β -phase; the α -phase contained chromium only within the limit of maximum solubility. With a decrease in quenching temperature, the β -phase content decreased, while the chromium content in the β -phase increased. When both aluminum and chromium were present, iron was concentrated in the β -phase. The optimum quenching temperatures were found to be near 800C, and depended upon the composition of the alloy and, in particular, on the aluminum and chromium content. The stabil-

Card 1/2

MAREK, J.; MARKOVA, D.

On sulfur dyes. Part 1: Composition of the light resisting
yellow sulfur dye Immedielllichtgelb GWL. Coll Cz Chem 27
no.7:1533-1548 JI '62.

1. Spolek pro chemickou a hutni byrobu, Usti nad Labem.

MAREK, Jan

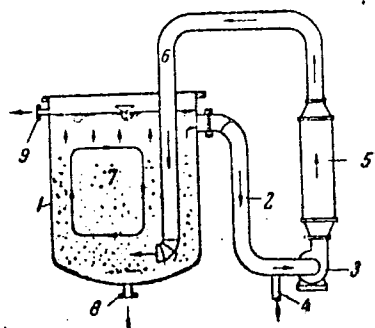
The 8th Conference of Chemical Engineering, Mechanical Engineering
and Automation in Lukacovice. Chem prum 12 no.1:30 Ja '62.

1. Chemoprojekt, Praha.

Method of crystallization with...

S/081/62/000/021/028/069
B117/B101

the bottom of the crystallizer. [Abstracter's note: Complete translation.]



Card 2/2

S/081/62/000/021/028/069
B117/B101

AUTHORS: Marek, Jan, Kholi, Jaroslav

TITLE: Method of crystallization with regulated crystal growth

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1962, 272, abstract
21196 (Chekhosl. pat. 99169. March 15, 1961)

TEXT: A method of crystallization has been patented, whereby the size of the crystals formed can be regulated. Pump (3) sucks in the mother liquor from crystallizer (1) through tube (2), whereby the mother liquor mingles with the fresh solution coming in through tube (4). From (3) the solution enters cooler (5), where it reaches the required degree of supersaturation. Through tube (6) the supersaturated solution is fed into the lower part of (1) where a suspension of growing crystals forms (7). According to the crystal size prescribed, the height and nature of the suspension rising in the circuit is determined by the rate of circulation of the supersaturated solution. The mixture of crystals and solution is discharged through connecting piece (8). The excess solution is decanted through tube (9). The method can be used not only to regulate the growth of the crystals formed but also to reduce the erosion and corrosion of
Card 1/2

MAREK, J.

Determining ammonia consumption standard for the manufacture of nitric acid
using gas analyses. p. 76

CHEMICKÉ PRŮMYSL. (Ministerstvo chemického průmyslu) Praha, Czechoslovakia
Vol. 9, No. 2, Feb. 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 7, July 1959
Uncl.

MAREK, J.

A laboratory of basic operations at the Graduate School of Chemical Technology in Prague.

p. 131. (Chemicky Prumysl. Vol. 7, No. 3, Mar. 1957, Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2,
February 1958

MAREK, J.

The catalytic activity of copper(I) chloride. III. Rate of decomposition of α -nitrobenzenediazonium chloride. J. Marek (Spolek chem. a hutn. výroby, Ustí n. L., Czech.). Chem. Listy 50, 669-81 (1956); cf. C.A. 49, 12338h. The rate of the decomposition, catalyzed by CuCl, was measured at 20°; the concn. of Cl⁻ = 4.9M, the mol. ratio CuCl:ArN₂⁺ = 0.18 to 0.08. The relation of Cowdrey and Davies (C.A. 44, 7128d) was verified, the const. k_1 has the value 450. The decomposition of the para derivative was too fast to be measured. E. Brd6s

MAREK, J.

3000

Vapor-liquid equilibria in mixtures containing an associating substance. III. Binary and ternary systems of water, acetic acid, and acetic anhydride at 400 mm. Hg. J. Marek. Collection Czech. Chem. Commun. 21, 269-6 (1956) (in English). See C.A. 50, 3826a.

CM
224

7
Observations with a chemical reaction: 11. Plant recti-
fication of mixtures of water, acetic acid and acetic anhydride.
1800-181900 (in English).—See C.A. 51, 9337c.

MAREK, J.

CZECHOSLOVAKIA/Analytical Chemistry - Analysis of
Inorganic Substances.

E-2

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24733

Author : Marek, J.

Inst : -

Title : Determination of Sodium, Potassium and Calcium by Means
of a Flame Photometer.

Orig Pub : Sbirka praci vyzkumn. ust., 1956, E, No 17-21, 37-55

Abstract : 1-1000 mg/liter Na, 0.5-50 mg/liter K and 1-200 mg/liter
Ca are determined in a flame photometer with an accuracy
of $\pm 2\%$. The duration of the analysis is 5 minutes.
Errors due to insufficiently monochromatic nature of the
light when light-filters are used, and those caused by
admixtures of extraneous elements, are eliminated by
using correction diagrams and by mathematical processing
of the results.

Card 1/1

Marek, J.

CZECHOSLOVAKIA/Cosmochemistry, Geochemistry, Hydrochemistry.

D.

Abs Jour : Ref Zhur - Khimiya, No 10, 1958, 32084

Author : J. Berousek, M. Hemala, J. Marek

Inst : -

Title : Preliminary Study of Chemical Composition Alteration of Fossils Depending on Stratigraphic Position.

Orig Pub : Sbirka prací vyzkumn. ust., 1956, E, No 9, 13, 25-37

Abstract : The spectrographic method developed by the authors allows to determine Mg, Sr, Al, Fe, Mn and Na in specimens of 0.5 to 0.6 mg and in the concentration range from 0.1 to 10% (Mg from 0.02 to 1%) with an accuracy of $\pm 6\%$. The analysis results are as follows (in %):
1/ Tortonian - ostracoda (2 specimens) Mg - 0.33 to 0.40, Sr - 0.38 to 0.41, Al - 0.029 to 0.030, Fe - 0.25 to 0.27, Mn - 0.05 to 0.013; foraminifera (1 specimen) Mg - 0.19, Sr - 0.15, Al - 0.026, Fe - 0.23, Mn - 0.01;

Card 1/2

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Card 2/2

MAREK, JAN

7

Y 156 catalytic activity of cuprous chloride. II. Efficiency of cuprous chloride in the Sandmeyer reaction of certain *p*-substituted benzenediazonium salts. Jan Marek (Spolek pro chem. hutní výrobu, Ústí n. Labem, Czech.). Chem. Listy 49, 1034-40 (1955); cf. C.A. 49, 6868b. The min. amts. of CuCl required for the Sandmeyer reaction are much smaller than prescribed by the literature. For the compds. of general formula $p\text{-XC}_6\text{H}_4\text{N}_2\text{Cl}$, the following min. amts. (in mole CuCl per mole) are necessary: for X = NMe₂ 0.18, OMe 0.17, Me 0.13, Cl 0.08, CO₂H 0.08, NO₂ 0.08. M. Hudlický

Marek, Jan

CH

✓ Effect of association on liquid-vapor equilibria. II.
Correlation of equilibria of binary mixtures containing
acetic acid at atmospheric pressure. Jan Marek. Collec-
tion Czechoslov. Chem. Commun. 20, 1440-1444 (1955) (in
English).—See C.A. 49, 1440Ac. E. J. C.

PM

Distr: 4E3d/4E3b 1

Calculation of the viscosity of organic liquids. J. Kotlíček and J. Marek. *Chem. průmysl* 5, 330-2 (1955); *Chem. Zvesti.* 12, 355-4 (1958).—The Papkov equation $\eta = (Sp/M)^{1/2}$ (C.A. 30, 1277) is expanded, and a method is elaborated according to which the viscosity of org. substances can be calcd. approx. from their known phys. consts. The value S is the sum of the consts. of the atoms and of the structural elements of the mols.; the S values can be utilized to calc. the viscosity of satd., unsatd. halogenated, aliphatic, and aromatic hydrocarbons, of alcs., aldehydes, ketones, esters, acids, ethers, as well as of some compds. contg. S and N. Deviations for alcs. and fatty acids show the influence of assocn., which can be taken into consideration. Compds. contg. N and S and having strongly polar groups or H bridges do not fit into this system. The differences between measured and calcd. values for all investigated materials amount to approx. $\pm 20\%$, at the most $\pm 50\%$. These materials are pentane, octane, decane, isoprene, cyclohexane, benzene, ethylbenzene, tetrahydronaphthalene, $CHCl_3$, C_2HCl_3 , $PrCl$, $PhCl$, $EtBr$, m -bromotoluene, MeI , PhI , $MeOH$, $EtOH$, $BuOH$, isoamyl alc., acetone, $MeCOEt$, acetic, propionic, butyric, and valeric acids, methyl formate, $BuOAc$, $PrOEt$, 1,3-dioxane, Et_3NH , dimethylaniline, nitromethane, $PhNO_2$, o -nitrotoluene, pyridine, CS_2 , and thiophene. The following at. consts. are given: C +5.5; H -0.9; O +1.5; Cl +3.5; Br +6.0; I +9.0; N +5.5; and S +2.0; and the following structural consts.: chain branching +1.0; C:C -4.0; $>C:O$ -1.5; a 5-membered ring attached to a 6-membered ring +1.0; and naphthalene ring without double bonds +5.0. For fatty acid the calcd. S value is 1.4, for aliphatic alcs. 2.0. F. X. G.

MAREK, J.

Marek, J. Socialist competition in the chemical industry in 1954. p. 141.
CHEMICKY PRUMYSL. Praha. Vol. 5, no. 4, Apr. 1955.

SO: Monthly List of the East European Accession, (EEAL), LC. Vol. 4,
no. 10, Oct. 1955. Uncl.

MAREK, J.

3481. The use of polarography in the analysis of petroleum water. The determination of certain anions (iodides, bromides and sulphides). N. Benala, J. Marek and J. Valchova. *Sbornik Průmyslového Ústavu, N. 1956, (1-8), 111-123. Ref. Zhur. Khim., 1956, Abstr. No. 4098.* Iodide and bromide ions in petroleum water are determined by oxidation to IO_3^- and BrO_3^- and polarography of the BrO_3^- . Iodides are oxidised by hypobromite in alkaline medium (0.05 M NaOBr in 2-3 M NaOH) and excess of oxidant is destroyed by the addition of satd. Na_2SO_3 soln. After the oxidation, IO_3^- are determined polarographically against a background of 0.2 M NaOH. Bromides are oxidised by hypochlorite in unbuffered weakly alkaline soln. (1 M NaOCl in 0.1 M NaOH), and excess of oxidant is destroyed by evaporation to dryness. The residue is dissolved in 0.1 M $CaCl_2$ soln. slightly acidified with HCl, so that the final soln. is neutral or slightly alkaline. The bromate is then determined polarographically. The methods described permit Br^- and I^- to be determined in any excess of the other halogens. Sulphides are determined quant. by the height of the anode wave against a background of 0.1 M NaOH. The methods are specific and permit 0.1 mg per litre of the elements named to be determined without preliminary concn. or separation.

C. D. KOPKIN

MAREK, J.

CZECH.

Catalytic action of cuprous chloride. I. Effect of cuprous chloride in the Sandmeyer reaction with some *o*-substituted benzenes diazonium cations. J. Marek. *Chem. Listy* 48, 1231-24 (1954).—The yields of the Sandmeyer reaction with anthranilic acid, *o*-toluidine, and *o*-nitroaniline fall off rapidly when the amt. of CuCl is decreased below 1.0, 0.15, and 0.05 moles per mole of diazotized compounds, respectively. M. Hudlický

gan

Marek, Jan

Effect of association on liquid-vapor equilibria. I.
Equilibrium relations for systems involving an associating
component. Jan Marek and George Standart (Vysoká
škola chem., Prague, Czech.). Chem. Listy 48, 1114-22
(1954).—The thermodynamically consistent equil. relations
 for multicomponent systems are derived; the assocn. fac-
 tors involved in these relations are generally functions of the
 temp., pressure, and compn. The relations can be used for
 correlating the data of systems contg. an associating com-
 ponent the assocn. const. of which in the pure gaseous phase
 is known. E. Buda

MAREK, JAN

Rectification with a chemical reaction. I. Calculation of the number of theoretical plates for continuous plate columns. Jan Marek (Vysoká škola chem., Prague, Czech.), *Chem. Zvesti* 48:223-228 (1954).—The calcn. is based on material and heat balances in which the effect of the chem. reaction in the liquid phase is included. The data required are: vapor-liquid equil., reaction kinetics, molal vols. and enthalpies of the mixt. For ternary mixts. a numerical-graphic solution is recommended. Three illustrations are given. E. E. —

MAREK, Jan

CZECH

✓Hydrolysis of acetic anhydride at elevated temperatures in the presence of ethyl acetate. Jan Marek (Vysoká škola chem., Prague, Czech.). *Chem. zpr.* 47:188-89 (1964).
 The rate of hydrolysis of Ac_2O (I) in the temp. range 85-95° and in the presence of 0-70 mol. % of AcOEt (II) was detd. by titrations. The results can be expressed by the usual kinetic equation for the irreversible reaction of 2nd order with respect to I and H_2O up to 70% conversion of these compds. The hydrolysis of II in this system is negligible. The ratio of the concn. of I to H_2O and the concn. of AcOH have no effect on the rate const., which can be expressed by an empirical equation: $k_s = (25.642 - 21.057x_1) \times 10^{10.414 - (251.4/T)/13.593}$, where x_1 is the mole fraction of II and T is the abs. temp. This equation represents the exptl. data with an av. error of $\pm 4\%$. E. Růžička

MAREK, JAN,

3

CZECH

✓ Effect of association on liquid-vapor equilibria. I.
Equilibrium relations for systems involving an associating
component. Jan Marek and George Standart. Collection
Czechoslov. Chem. Commun. 19, 1074-84 (1984) (In English)
-See C.A. 49, 887b. E. J. C.

11/25/84

MAREK, J.

C Z E C H

6246* Rectification With a Chemical Reaction. I. Calculation of the Number of Theoretical Plates for Continuous Plate Columns. (English.) J. Marek, *Collection of Czechoslovak Chemical Communications*, v. 19, no. 6, Dec. 1954, p. 1055-1073.

* Includes diagram, tables, graphs. 13 ref.

MA
MET

MAREK, JAN

CZECH

Hydrolysis of acetic anhydride at elevated temperatures in presence of ethyl acetate. Jan Marek (Tech. Univ. Prague). Collection Czechoslovak Chem. Commun. 19, 621-31 (1954) (in English).—See C.A. 49, 4351f. R. J. C.

62

MAREK, J.

Quaternary four-suffix Margules equation [in English with summary in Russian]. Sbor.Chekh.khim.rab. 19 no.1:1-3 F '54. (MLRA 7:6)

1. Department of Chemical Engineering, Technical University, Prague.
(Phase rule and equilibrium) (Equations)

MAREK, Jan

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
General and Physical Chemistry

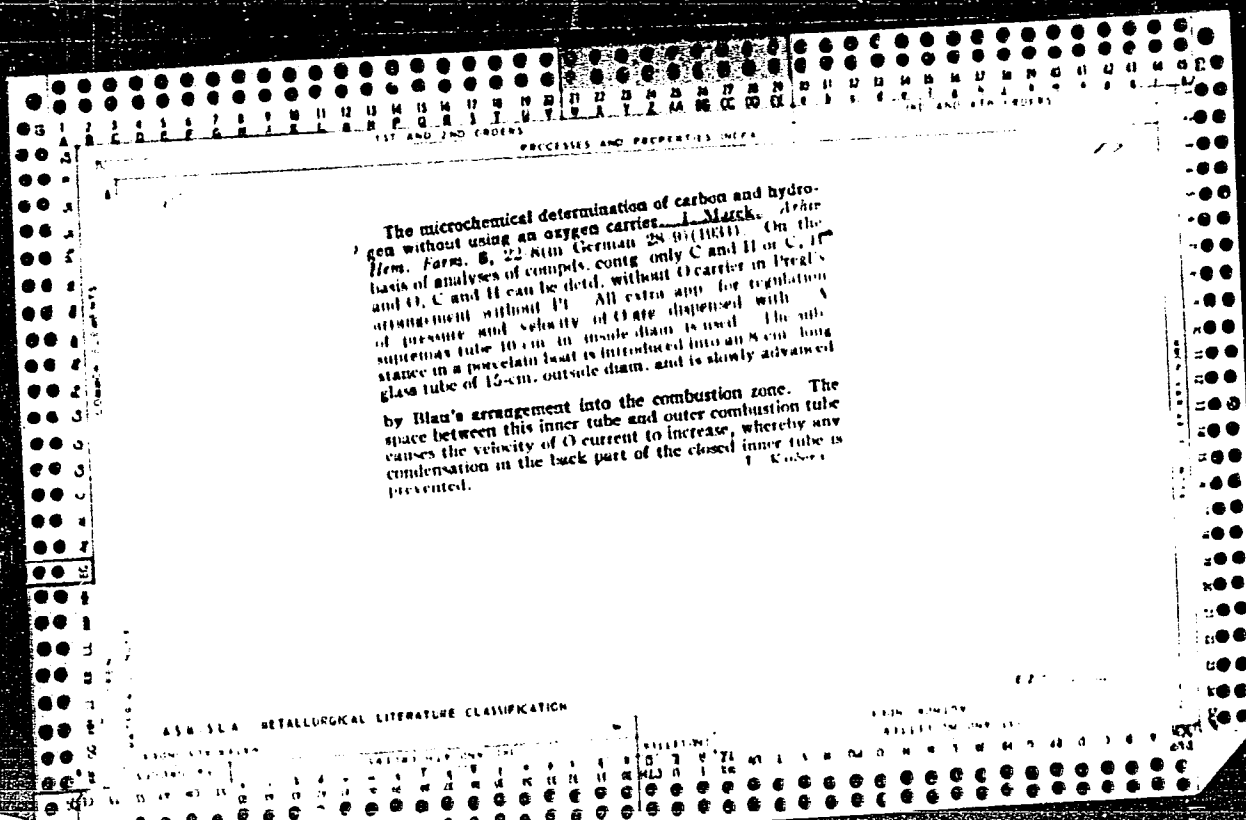
(2) 5
Four-suffix Margules equation for quaternary systems.
Jan Marek (Vysoká škola chem., Prague, Czech.). *Chem. Listy* 47, 1739-41 (1953).—Expressions for the activity coeffs. in quaternary systems are derived from the Wohl four-suffix empirical equation.
E. Erdős
11-5-54
mf

CA

10

Attempts to condense dichloromalealdehydic acid with *p*-chloro- and 2,5-dichloroanilins. Jan Marek. *Chem. Listy* 38, 7-9 (1944).—Dichloromalealdehydic acid (mucochloric acid) (I) with 2 moles *p*-ClC₆H₄NH₂ gives (probably) the *p*-chloroanil of *p*-(*p*-chloroanilino)- α -chloro- β -carotin, decomp. 220°. I and 2,5-Cl₂C₆H₃NH₂ give the 2,5-dichloroanil of I, C₁₂H₇Cl₃N₂O₄, m. 166° (from

MeOH), which on hydrolysis with HCO₂H gives 2,5-Cl₂-C₆H₃NHCHO, m. 145-6° (from MeOH), identical with an authentic sample. Milos Hudlicky



KRAUSKOPF, Jaroslav; MABEK, Jan; KRUCH, Rudolf

2 Cases of photosensitization after aureomykoin. Cesk.derm.34
no.6:383-385 D '60.

1. Kozni oddeleni OUNZ v Chebu. Vojensky lazensky ustav ve
Frantiskovych Laznich.

(CHLORTETRACYCLINE toxicol)

(DERMATITIS MEDICAMENTOSA)

(PHOTOSENSITIZATION)

L 13573-66

ACC NR: AP6006061

SOURCE CODE: CZ/0053/65/014/004/0303/0303

AUTHOR: Marek, J.

ORG: Institute of Pharmacology, Medical Faculty, Palacky University, Olomouc
(Farmakologicky ustav lek. fak. UP)

TITLE: Effect of euprogan and some simple compounds, amidopyrine, promethazine and mesocaine on some experimental inflammations and swellings [This paper was presented during the Twelfth Pharmacologic Days, Smolenice, 29 Jan 65.]

SOURCE: Ceskoslovenska fysiologie, v. 14, no. 4, 1965, 303

TOPIC TAGS: rat, pharmacology, drug effect, animal physiology

ABSTRACT: The Czech preparation, Euprogan had a stronger anti-inflammatory effect on various sterile experimental granulomas in rats than either amidopyrine, promethazine or mesocaine. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 001

iw
Corf 1/1

MAREK, J.; HOLUB, R.

The calculation of complex chemical equilibria with a digital computer. Coll Cz Chem 29 no.5:1085-1093 My '64.

1. Chemoprojekt, Prague and Research Institute of Organic Syntheses, Pardubice.

MAREK, J.

FELIČAN, V.; MAREK, J.

Significance of flocculation liver test in functional jaundice. Lek.
listy, Brno 6 no.17-18:527-534 1 Sept. 51. (CIML 21:4)

1. Of the First Internal Clinic (Head--Prof. Josef Blatný, M.D.) of
Palacky University.

PELIKAN, V.; MAREK, J.

Use of simple and combined galactose and glucose test in
clinical practice. Cas. lek. cesk. 90 no.28:865-869
13 July 1951. (CJML 21:1)

1. Of the Internal Clinic of Palacky University in Olomouc
(Head — Prof. J. Blatny, M.D.).

MAREK, J.

Experiences in building construction during the winter season of 1954-1955.
p. 266.

Vol. 2, no. 9, Sept. 1954
POLEMMI STAVBY
Praha, Czechoslovakia

Source: East European Accession List. Library of Congress
Vol. 5, No. 8, August 1956

MAREK, J.

An amplifier using weak-anode current.

P. 20. (SDELOVACI TECHNIKA) (Praha, Czechoslovakia) Vol. 6, no. 1, Jan. 1958

SO: Monthly Index of East European Accession (EEAI) LC Vol. 7, No. 5, 1958

MAREK, J.

New trends in the development of conveyers, p. 26, RUDY (Ministerstvo
hutního průmyslu a rudných dolů) Praha, Vol. 3, No. 1, Jan. 1955

SOURCE: East European Accessions List (EEAL) Library of Congress,
Vol. 4, No. 12, December 1955

L 38131-66 IJP(c) GQ

ACC NR: AP6028683

SOURCE CODE: CZ/0026/66/011/002/0089/0112

AUTHOR: Marek, Ivo (Candidate of sciences; Prague)

ORG: Mathematics Institute, Charles University, Prague (Matematicky ustav, Karlova universita)

TITLE: Problem of mathematical physics

SOURCE: Aplikace matematiky, v. 11, no. 2, 1966, 89-112

TOPIC TAGS: mathematic physics, eigenvalue, operator equation, integral equation

ABSTRACT: Given a family of u_0 -positive operators $T = T(\gamma)$ continuously depending on a real parameter $\gamma \in \Gamma \subset (-\infty, +\infty)$ and with a positive eigenvalue $\mu_0(\gamma)$ of $T(\gamma)$, the following problem is solved: Determine a value $\gamma_0 \in \Gamma$ for which $\mu_0(\gamma_0) = 1$. Necessary and sufficient conditions for existence and unicity are shown, and an iterative method is given for the construction of γ_0 . The results are applied to the existence and unicity of the so-called critical parameter of a system of integral equations describing chain reaction in a slab mesh. Orig. art. has: 52 formulas. [Orig. art. in Eng.] [JPRS: 36,845]

SUB CODE: 12 / SUBM DATE: 31Jul64 / ORIG REF: 008 / SOV REF: 003

OTH REF: 002

Cord - /- *JD*

3⁰
B

MAREK, Ivo

On the existence and approximate construction of characteristic values of cyclic systems of operator equations. Cas pro pest mat 89 no.4:449-465 0 '64.

1. Institute of Mathematics of the Charles University, Prague 8, Sokolovska 83. Submitted November 30, 1963.

MAREK, Ivo

On a special type of linear equations in the Hilbert space.
Cas pro pest mat 89 no.2:155-172 Ap '64

1. Faculty of Mathematics and Physics, Charles University,
Prague 8 - Karlin, Sokolovka 83.

MAREK, Ivo

On the approximative construction of the eigenvectors
corresponding to a pair of complex conjugated eigenvalues.
Mat fyz cas SAV 14 no.4:277-288 '64.

1. Institute of Mathematics of the Charles University,
Prague 3, Sokolovska 83.

L 57449-65

ACCESSION NR: AP5019298

equations, with the convergence of some numerical processes of the type
source iteration and with the stability of the numerical process used.
Some numerical results are given.

Orig. art. has: 26 formulas, 3 tables.

ASSOCIATION: Matematicky ustav Karlovy university, Prague-Karlin
(Mathematics Institute of Charles University)

SUBMITTED: 22 Aug63

ORCL: 00

SUB CODE: MA, NP

NR REF SOV: 001

OTHER: 009

JPRS

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Card

2/2

L 57449-65 EWT(m)/EPF(n)-2/EWA(h) Pu-4

ACCESSION NR: AP5019298

CZ/0026/64/009/004/0294/0305

AUTHOR: Marek, Ivo (Candidate of sciences)

27
26
B

TITLE: Neutron chain reaction with fast neutrons. II. Numerical analysis

SOURCE: Aplikace matematiky, v. 9, no. 4, 1964, 294-305

TOPIC TAGS: numeric analysis, neutron, nuclear reaction, applied mathematics

ABSTRACT: The paper is a continuation of the paper [8] of the same name. In [8] problems of existence and of uniqueness of critical parameters (the material parameter, the reactivity) were solved; in the present paper computational problems are discussed. The questions treated are connected with the discretization of the problem, with the convergence of the solutions of the obtained linear algebraic equations to the exact solutions of the obtained linear algebraic equations to the exact solutions of the initial integral

Card 1/2

L 60289-65

ACCESSION NR: AP5021199

Orig. art. has 40 formulas.

ASSOCIATION: Matematicky ustav Karlovy university, Prague (Mathematics Institute of Charles University)

SUBMITTED: 13Aug63

ENCL: 00

SUB CODE: MA

NO REF SOV: 002

OTHER: 004

JPRS

Card 2/2

L 60289-65 EWT(d) IJP(c)
ACCESSION NR: AP5021199

CZ/0045/64/000/004/0277/0288

AUTHOR: Marek, Ivo (Prague)

TITLE: Approximate construction of the eigenvectors corresponding to a pair of complex conjugated eigenvalues

SOURCE: Matematicko-fyzikalny casopis, no. 4, 1964, 277-288

TOPIC TAGS: approximation, construction, mathematic operator, Banach space, eigenvector, eigenvalue

Abstract (Author's Russian summary, modified): The article presents a method of approximate construction of the eigenvectors corresponding to a pair of complex conjugated eigenvalues of a linear bounded operator T which reflects a certain Banach space in itself, lying on the boundary of the circle $|\lambda| \leq r(T)$, where $r(T)$ is the spectral radius of reflection of T . The method is based on certain properties of the operator sequence

$$(n^{-1} \sum_{k=1}^n \mu_k^{-1} T^k),$$

where μ_k are certain approximations of one of the mentioned eigenvalues.

Card 1/2

MAREK, Ivo, CSc.

Some mathematical problems of the theory of fast nuclear reactors. Aplikace mat 8 no.6:442-470 '63.

1. Ustav jaderného výzkumu, Československá akademie věd, Řez, p. Křesany.

MAREK, Ivo. ScC.

Chain reaction with fast neutrons in enriched uranium. Aplikace
mat 8 no.2:102-117 '63.

1. Ustav jaderného výzkumu, Československá akademie věd, Rez,
pošta Křesany.

CZECHOSLOVAKIA/Nuclear Physics - Nuclear Power and Technology

C-8

Abs Jour : Ref Zhur - Fizika, No 12, 1958, No 27079

Author : Marek Ivo

Inst : Not Given

Title : Use of the Matrix Method in Multi-Group Theory of Neutron Diffusion.

Orig Pub : Aplikace mat., 1958, 2, No 3, 141-149

Abstract : A problem frequently encountered in multi-group theory of nuclear reactors is solved, i.e., the critical radius of a spherically-symmetrical reactor with n zones is determined. The mathematical formulation of the problem leads to systems of linear differential equations with constant coefficients. With the aid of matrix notation it is possible to show that a solution exists and that it is unique. In the practical calculations, the use of such a notation is convenient in the case when the number of the energy groups is not too large ($2 \leq n$).

Card : 1/1

MAREK, Ivan

Chain reaction of fast neutrons. Jaderna energie 9 no.7:234
Jl '63.

1. Ustav jaderneho vyzkumu, Ceskoslovenska akademie ved,
Rez u Prahy.

A method of accelerating the ...

S/208/62/002/006/001/007
B112/B186

where the sequence μ_n tends to a limit point μ_0 which is called the dominant eigenvalue of the operator T . This means that the absolute values of all the other eigenvalues λ of T are less than the absolute value of μ_0 . The main part of this paper deals with the determination of the sequence μ_n . Several operators are considered, to which Lyusternik's method may be applied.

SUBMITTED: March 31, 1962

Card 2/2

42755

S/208/62/002/006/001/007
B112/B186

11.550
AUTHOR:

Marok, I. (Prague)

TITLE:

A method of accelerating the convergence of iterative processes

PERIODICAL:

Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki, v. 2, no. 6, 1962, 963 - 971

TEXT: The operator equation

$$Ax = y \quad (2)$$

is solved by an iterative process

$$x_{n+1} = Tx_n + Py, \quad (4)$$

where $T = I - PA$ and P is a continuous linear operator. According to Lyusternik's method, the convergence of the iterative process (4) is accelerated by the iterative process

$$y_n = (x_{r(n+1)} - \mu_n x_{rn}) / (1 - \mu_n), \quad (7)$$

Card 1/2